CLINICAL NOTES AND CASE REPORTS

DUODENAL STASIS

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THIS condition cannot be considered as a true clinical entity any more than gastric stasis can be considered as such. It is often mistaken for numerous varieties of abdominal pathology. There are several grades encountered from the very mild transient type of functional origin to the almost complete obstruction due to organic diseases.

The transverse duodenum is the part that is usually occluded. It crosses the aorta, vena cava, and the vertebral column at the level of the second and third lumbar segments. It ascends as far as the inferior surface of the pancreas. At the level of the first or second lumbar vertebra, this ascending portion bends abruptly forward, forming the duodenojejunal flexure, and then passes into the jejunum. This terminal portion is fixed by the muscle of Treitz, which is attached above to the strong connective tissue around the celiac artery as well as to the left crus of the diaphragm, thereby making this portion firmly fixed.

REPORT OF CASE

Mrs. R. J., age thirty-six, was admitted to hospital January 7, 1932. She complained of feeling nauseated, had a gaseous indigestion and had been vomiting for the past five weeks. She had a dull aching type of pain over the entire abdomen, but it was more marked in the right upper quadrant. She said she felt a fullness in this quadrant, always noted a rumbling of gas and felt better when lying on her abdomen. She had been advised to have an exploratory laparotomy.

In the review of her past history she stated that she had had a gaseous indigestion for the past fourteen to fifteen years. Thirteen years ago the appendix was removed. This did not relieve her condition except when she was convalescing. Otherwise the past history is of no moment.

Physical Examination.—Slender, asthenic habitus, abdominal muscles flaccid. Moderate tenderness over the entire abdomen, but more marked in the right upper portion. The intestines were distended with gas. The liver was not enlarged. The heart and lungs were normal.

Laboratory Findings.—Blood: Red blood cells, 4,329,000; hemoglobin, 70 per cent; white blood cells, 9,400; with normal numbers of various types. Blood sugar, 90.

Urine: Negative for sugar and albumen.

Gastric analysis: There was a moderate amount of mucus, slightly bile-tinged. The free HCl and combined acids within normal limits.

Duodenal drainage: Excessive amounts of mucus, food remains were found of meal eaten eighteen hours previously. Bile contained a few pus cells and slightly increased amount of mucus.

X-ray report: This examination revealed a ptotic stomach. The pylorus was retracted to the right side. There were no signs of a peptic ulcer.

The filling of the first portion of the duodenum was considerably delayed, but remained filled throughout the examination. Peristalsis was very inactive. The first, second, and third portions of the duodenum were moderately dilated.

A diagnosis of duodenal stasis was made in view of the history of a gaseous indigestion persisting for several years; the finding of food remains in the duodenum after eighteen hours, and the x-ray findings noted above.

Treatment consisted of rest in bed, knee-chest position q. 4 h, a high caloric diet with a minimum amount of roughage fed six times per day, exercises to give tone to the abdominal muscles, and sodium cacodylate, grain ¼, three times a day.

She improved very satisfactorily on this regimen and after one month was permitted to be out of bed. At this time she was instructed to wear an abdominal support, but also to continue with her abdominal exercises. Her weight has continued to increase and she has been free from her intestinal symptoms.

COMMENT

Glenard,[1] in 1889, expressed the opinion that a ptosed stomach caused dilatation of the duodenum. This observation was also verified by Adams,[2] who states:

> The obvious difficulty in accepting chronic duodenal ileus as a clinical entity is the fact that compression of the duodenum by the mesenteric vessels is likely to be a congenital defect. The symptoms are rarely manifest before the age of twenty. The cumulative effects of viceroptosis may be claimed as the determining factor in the causation of the symptoms. If this be entirely so, x-ray should demonstrate a viceroptosis in nearly all cases, but only about 25 per cent of them exhibit this condition. While on the other hand, a gastroptosis was noted in 75 per cent of the cases.

Wilkie,[3] in describing the pathological anatomy, states that the salient feature of the condition is the dilatation of the first three parts of the duodenum up to the crossing of the mesenteric vessels. The dilatation in the chronic type may be so pronounced as to resemble a second stomach. The duodenal wall is hypertrophied. The pylorus is usually dilated, although this is not invariable. The clinical picture is modified when the pylorus retains its tonicity. If the duodenum is distended at the time of the examination and a finger be passed behind the root of the mesentery and the latter lifted forward, the duodenal content will immediately pass on and fill up the duodenojejunal loop.

In the less severe types of cases, as pointed out by Adams,[2] in which a tentative diagnosis of gall-bladder disease is made and when the patient is opened no gall-bladder pathology is found, the pyloric vein is noted to be horizontal instead of perpendicular, the first part of the duodenum is pulled down to a vertical position and the entire duodenum is pulled around the head of the pancreas, displacing the latter forward.

The majority of these sufferers are emaciated, of asthenic habitus, and many times have neurasthenic tendencies. One of the prime requisites is to put weight on them. If they are unable to retain food, jejunal feeding may be resorted to. Bockus[4] advises passing the tube and leaving it in position for three weeks if necessary, especially in the severe types.

The diet should be a high caloric, high vitamin, smooth diet, taken in small quantities at frequent intervals. The calories should be figured so as to insure weight gain.

When the patient is in bed instructions should be given to lie on the abdomen or on the sides as much as possible. After becoming ambulatory an abdominal support should be worn until an appropriate weight gain is attained. All patients should be instructed to take postural exercises. The knee-chest position and the Goldthwaite diaphragmatic exercises prove beneficial in developing tone to the muscles of the abdominal wall which in turn helps to alleviate the visceroptosis.

Massage, abdominal and general, electrotherapy and hydrotherapy, and tonics, all contribute to the general physical improvement.

Duodenojejunostomy has been performed with very satisfactory results. It is, without doubt, the operation of choice. If a duodenal ulcer is associated with a duodenal occlusion, Wilkie and others recommend a combined gastro-enterostomy and duodenojejunostomy.

All patients suffering from a functional ileus should have the advantage of an adequate medical regimen before surgery is attempted.

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REFERENCES

1. Glenard: Del' Enteroptose, Presse Med., Belge, 1889.
2. Adams: Brit. J. Surg., Vol. xiv, No. 53.
3. Wilkie: Brit. J. Surg., Vol. ix, No. 34.
4. Bockus, H. L.: Northwest Med., Vol. xxix, No. 2 (Feb.), 1930; No. 3 (March), 1930.

CARCINOID APPENDIX

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INFLAMMATIONS of the appendix are common. From a clinical standpoint they are divided into the acute and chronic types. Sections are easy to diagnose and, as a rule, present no unusual features. Tumors of the appendix are rare. They may be benign or malignant, primary or secondary. Benign tumors are unusual. Deaver, in his extensive appendiceal work, demonstrated fibroleiomyoma only on one or two occasions.[1] MacCarthy of the Mayo Clinic showed approximately that one in 225 appendices removed is cancerous at the tip. The clinical course of a malignancy of the appendix is that of a chronic interstitial appendicitis. It can only be diagnosed by appendectomy and section. Of the two types of epithelial tumors arising in the appendix, we find: (1) True carcinomata; and (2) a nonmalignant tumor which presents on section, according to H. Reid and H. Smith,[2] "an endothelial proliferation resulting from inflammation of displaced epithelial cells. The usual round-cell infiltration is absent and the connective tissue retains its acidophilic properties." The term "carcinoid" has been applied to this second type.

Regarding the above pathologic diagnosis, the following case history of an appendix recently removed is presented.

REPORT OF CASE

History.—The patient, a female, age fifty-two, white and married, the mother of two grown children, with a negative pelvic history, was admitted to the Queen of the Angels Hospital on May 17, 1932. She complained of a bearing-down pain in the lower right abdominal region, extending over to her bladder. This pain started early Sunday morning, May 15, 1932, and persisted all day. During the day she passed a great deal of gas. She was not nauseated nor did she vomit. Sunday afternoon she took an enema without relief of pain. Sunday night the pain extended over toward her right groin. The pain persisted all day Monday, without any other symptoms and no elevation of temperature. Tuesday morning she vomited for the first time, after a dose of Epsom salts. A physician was called and the examination revealed slight pain, some rigidity, and a moderate degree of tenderness over the right iliac fossa. Her temperature, pulse, and respiration were normal. A diagnosis of an acute appendicitis was made and the patient was removed to the Queen of the Angels Hospital. Her blood count at that time showed a 99 per cent hemoglobin. A color index of 0.86 erythrocytes, 5,664,000 which appeared normal. Her leukocytes were 11,500 with small lymphocytes of 18 per cent, transitional 2 per cent, and polymorphonuclears of 80 per cent. An internal examination demonstrated the pelvis to be negative. An examination of the cervix with the speculum showed a slight enlargement, redness and protrusion of the mucous membrane into the cervical canal. A flat K-U-B picture was negative, as was the urine, blood pressure, and Wassermann.

Operation.—A low spinal anesthetic was administered, and a mid-line incision extending from the pubic bone to the umbilicus was employed. A mass the size of a hen's egg was palpated in the ileocecal region. On gentle separation of the terminal ileum from the cecum, a gelatinous mass resembling mucus, about two drams in amount, was observed protruding from the side of the appendix. A small hole in the side of a rather broadened appendix, which resembled a diverticulum, permitted the escape of more of the same material. The appendix was removed. Pagenstecher linen was employed throughout. There was no thickening of the appendiceal base. An inspection of the abdomen was negative, with the exception of the gallbladder, which was enlarged and contained several stones. The abdomen was closed in the usual manner without drainage. A small section of the cervix was removed and sent to the laboratory for diagnostic purposes. The report from the cervical section was negative. The patient made an uneventful recovery and left the hospital on the eighth day.

Pathologic Report.—Paraffin sections were made from four blocks of the appendix. Section from one block showed the epithelium to be thrown up into papillary or serrated projections. Each one has a small central core with several layers of large epithelial cells, some having hyperchromatic nuclei. A number of mitotic figures are seen. There is no invasion of the fibrous tissue beneath. There is some round-cell infiltration in the submucosa. In the muscle wall there are longitudinal clear spaces, showing a fibrinous-like network in which are seen round cells and eosinophils. The serous surface is thickened and fatty, and shows scattered round cells.

Another section shows a hyperplasia of the superficial epithelium without the papillary appearance. There are irregular glands with epithelial cells like those in the first section. In places there are masses of epithelial cells beneath the surface. Each mass has an irregular lumen. These masses are only a short distance beneath the surface and may be due to tangenital section. In the muscle and fibrous tissue there is a marked round cell and eosinophilic infiltration. . . . Section of a third block gives a picture like that of the first block. . . . Sections from a fourth block show